What is array?

* Array is object which contains element of an similar data type The elements of an array stored in contiguous memory location We can store fix set of an element in n java array . Array in jva based an index and The first elemnt of an array I sstored in 0th position and and second element stored in 1st index Whenever we want to store multiple element of similar datatype then we use array Arrays in Java can store both primitive and non-primitive types of data in it. It is the simplest data structure where each data element can be accessed directly by only using its index number. At the time of declaration of an array, you must specify the type of data with the array name.

Syntax : data type array[] ={};

Ex: int array[]={10,20,30}

Q. Why we need array?

In programming, most of the cases need to store a large amount of data of a similar type. We need to define numerous variables to store such a huge amount of data. While writing the programs, it would be very tough to memorize all variable names. Instead, it is better to define an array and store all the elements in it.

Q.how to access the element of an array?

To access any element of an array, we need the following details:

1. Base Address of array.
2. Size of an element in bytes.
3. Which type of indexing array follows.

Q.What is single dimentional array?

A one-dimensional array stores a single list of various elements having a similar data type One dimensional array represents one row or one column of array elements that share a common name and is distinguishable by index values.

Example : We can declare one-dimensional array and store values (or elements) directly at the time of its declaration, like this: int marks[ ] = { 90, 97, 95, 99, 100 }; // declare marks[ ] and initialize with five values.

**class** Testarray{

**public** **static** **void** main(String args[]){

**int** a[]=**{10,50,30,40,50,42,78}**;//declaration and instantiation

//traversing array

**for**(**int** i=0;i<a.length;i++)//length is the property of array

System.out.println(a[i]);

}}

Q.What is Mutidimentional array?

A multidimensional array is an array of arrays.

Multidimensional arrays are useful when you want to store data as a tabular form, like a table with rows and columns. We can also use a for loop inside another for loop to get the elements of a two-dimensional array

Ex; **int** array1[][]= {{1,2,3},{4,5,6,11},{7,8,9}}; // {} in this rows and column

Ex: public class Main {

public static void main(String[] args) {

int[][] myNumbers = { {1, 2, 3, 4}, {5, 6, 7} };

for (int i = 0; i < myNumbers.length; ++i) {

for(int j = 0; j < myNumbers[i].length; ++j) {

System.out.println(myNumbers[i][j]);

}  
 }

}

}

Q.What is length in java in array?

**the number of elements an array can hold, or the size of the array**, is called its length. You can use this length attribute or variable to find the size of an array in Java by using the dot operator with the array name. For example, Array.

For example, Array.length will give you the length of the array named “Array.

**Q.What Is the “length()” Method in Java?**

*length()*in Java is a final method, which is applicable for string objects. You can use it to find the number of characters in a string.

For example, *string.length()*will return the number of characters in “string.”

## ****Q.Differences Between “length” and “length()” in Java****

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### Q. 3. What will happen if you do not initialize an Array?

The array will take default values depending upon the data type

### 6. Can you declare an array without assigning the size of an array?

No, we cannot declare an array without ssigning size. If we declare an array without size, it will throw compile time error.

### 8. Where is an Array stored in JVM memory?

An Array is an object in java. So, Array is stored in heap memory in Java Virtual Machine.

### **5) Is it possible to declare array size as negative?**

No, it is not possible to declare array size as negative. Still, if we declare the negative size, there will be no compile-time error. But we get the NegativeArraySizeException at run-time.